

# Patent Abstracts of Japan

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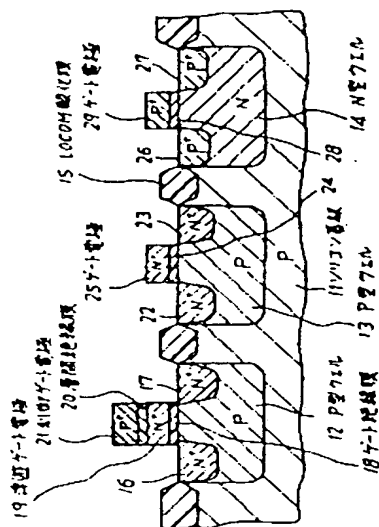
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TITLE : SEMICONDUCTOR DEVICE AND ITS  
MANUFACTURE



**ABSTRACT :** PURPOSE: To enable formation of a polysilicon film and ion impregnation process to be completed by processing only twice for reducing cost by constituting a FAMOS floating gate electrode with an N conductive type semiconductor layer and by constituting a control gate with a P conductive type semiconductor layer.

**CONSTITUTION:** A silicon oxide film 18 which operates as a gate insulation film is formed on a channel region which is constituted as a part of a P-type well 12 between a source and a drain region and a floating gate electrode 19 consisting of an N<sup>+</sup> polysilicon film is formed on this silicon oxide film. A control gate electrode 21 consisting of an N<sup>+</sup> type polysilicon film is formed on this floating gate electrode 19 through an interlayer insulation film 20 consisting of silicon oxide film. Thus, since the EPROM floating gate electrode 19 and the control gate electrode 21 consist of the N<sup>+</sup> type and P<sup>+</sup> type semiconductor layers respectively so that these can be formed simultaneously with an NMOS gate electrode 25 and a PMOS gate electrode 29, thus completing formation of the semiconductor layer and ion impregnation process by processing only twice.

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